IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Patent of

Louis V. KIRCHHOFF et al. Group Art Unit: 1645

Application No. 10/726,692 Examiner: P. Baskar

Filed: December 4, 2003

For: RECOMBINANT POLYPEPTIDES FOR DIAGNOSING INFECTION WITH TRYPANOSOMA CRUZI

PETITION TO MAKE SPECIAL

Commissioner for Patents
PO Box 1450
Alexandria, Virginia 22313-1450

Dear Sir:

Applicants request the above-identified patent application be granted Special Status as defined by 37 CFR § 1.102 and MPEP § 708.02.

Applicants respectfully submit that Special Status is appropriate under at least subsection XII. SPECIAL STATUS FOR APPLICATIONS RELATING TO BIOTECHNOLOGY FILED BY APPLICANTS WHICH ARE SMALL ENTITIES. Accordingly, Applicants certify:

(A) Small entity status was initially claimed on the transmittal form accompanying the filing of this application and such status has not changed to date;

(B) The subject of the patent application is a major asset of the small entity; and

(C) The development of the technology will be significantly impaired if examination of the patent application is delayed.

The basis for (C) is based on the Applicants' licensing efforts. Specifically, Applicants are in active negotiations to license the technology covered by this patent application. However, royalty rates are variable, depending upon when the claims are actually allowed. Thus, Applicants will receive significantly greater royalties once a patent issues. These significantly greater royalties will permit the Applicants to continue their research in this field of biotechnology. Accordingly, the fee under 37 CFR § 1.17(h) is enclosed.

Additionally, Applicants believe Special Status is appropriate under subsection X. INVENTIONS RELATING TO HIV/AIDS AND CANCER. As required, Applicants hereby provide the following statement as to how the invention contributes to the diagnosis, treatment or prevention of HIV/AIDS or cancer.

Chagas disease, caused by the protozoan parasite *Trypanosoma cruzi*, is a major cause of morbidity and mortality in Latin America, where 16-18 million persons are infected and 45,000 die of the illness each year. Moreover, it is estimated that 80,000-120,000 Latin American immigrants chronically infected with *T. cruzi* currently reside in the United States. Although most persons infected with *T. cruzi* acquired the parasite through contact with infected insect vectors, transmission by transfusion of contaminated blood donated by persons who chronically harbor the organism also is important. *T. cruzi* infection is life-long, and this biologic fact is at the heart of the clinical problems it causes, including those experienced by patients who also have cancer or HIV/AIDS.

The diagnosis of chronic *T. cruzi* infection is made primarily by detecting specific IgG antibodies that bind to antigens of the parasite. The hybrid recombinant antigens described in the specification of the present invention have the potential for providing the basis for diagnostic assays that are more accurate than currently available tests.

The availability of more accurate assays for diagnosing chronic *T. cruzi* infection is of potential importance for patients with cancer in two situations. In the first instance, cancer patients with Chagas disease who are given immunosuppressive chemotherapy run the risk of acute and sometimes life-threatening reactivation of *T. cruzi*. Because of this risk, it is critical that patients with cancer who were born in or have lived in areas in which Chagas disease is endemic be tested for infection with the parasite prior to the initiation of chemotherapy. Secondly, patients with malignancies who are immunosuppressed by chemotherapy often require frequent transfusions, and at the same time are particularly vulnerable to any infectious agents that might be in the blood products they are given. At the present time there is no FDA-approved assay for screening the U.S. blood supply for *T. cruzi*, and indeed as a consequence six cases of transfusion-associated transmission of *T. cruzi* have been reported, all of which occurred in immunosuppressed patients with malignancies. Thus it is clear that in both these clinical situations involving cancer patients, accurate diagnostic assays are necessary to avoid the serious and sometimes fatal consequences of *T. cruzi* infection. In recent years, FDA staff have encouraged private industry to develop assays for screening donated blood, and currently the hybrid recombinant antigens described in the specification of the present invention are being evaluated for that purpose.

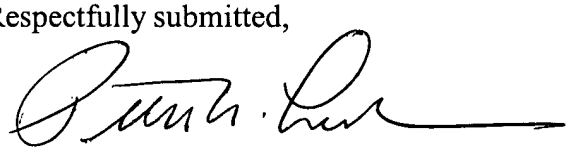
T. cruzi infection can also be important in patients with HIV/AIDS. The primary pathogenic process in persons infected with HIV is the immunosuppression caused by the virus. This latter phenomenon sets the stage for opportunistic infections, which for the most part are the cause of the morbidity and death in persons with HIV/AIDS. As is the case in patients with both *T. cruzi* infection and cancer, as a consequence of the immunosuppression, persons infected with *both T. cruzi* and HIV run the risk of acute reactivation of the latter which involves serious neurological or myocardial disease and can be fatal. Dozens of such patients have been reported, and the problem has reached such a level in Brazil that public health authorities have made reactivation of *T. cruzi* infection an AIDS-defining illnesses. Moreover, as in the case of immunosuppressed cancer patients, giving transfusions of blood products contaminated with *T. cruzi* to persons with immune

systems weakened by HIV/AIDS has the potential for causing serious and fatal illnesses and needs to be avoided by accurate screening of donated blood.

In summary, it is clear that accurate assays for detecting *T. cruzi* infection are necessary for protecting cancer patients and persons with HIV/AIDS from the potentially serious effects of *T. cruzi* infection. The recombinant hybrid antigens described in the specification of the present invention have the potential for serving as the basis of such assays.

Accordingly, Applicants respectfully request this application be granted Special Status. If any additional fee is necessary to make this petition complete, it may be deducted from the undersign's Deposit Account Number 19-4375.

Respectfully submitted,



Peter N. Lalos
Registration No. 19,789

Attorney Docket No.: PNL 21311A

STEVENS, DAVIS, MILLER & MOSHER, L.L.P.
1615 L Street, N.W., Suite 850
Washington, D.C. 20036-5622
Telephone: (202) 785-0100
Facsimile: (202) 408-5200 or (202) 408-5088

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